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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,070	08/22/2003	Michael Wayne Graham	0763/74768-BA-PCT-US/JPW/	8796

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EXAMINER	
WHITEMAN, BRIAN A	

ART UNIT	PAPER NUMBER
1635	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/646,070	GRAHAM ET AL.	
	Examiner	Art Unit	
	Brian Whiteman	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *48,110,114-136,138-140 and 145-152* is/are pending in the application.

4a) Of the above claim(s) *139,140,145 and 150-152* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *48,110,114-136,138,146-149* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 5/15/09 has been entered.

Election/Restrictions

Claims 139, 140, 145 and 150-152 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 12/15/04.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 48, 110, 114, 116, 117, 118, 120, 121, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, and 146-149 remain rejected under 35 U.S.C. 102(e) as being anticipated by Fire et al (US 6,506,559, cited on a PTO-1449).

Fire claims: A method to inhibit expression of a target gene in a cell in vitro comprising introduction of a ribonucleic acid (RNA) into the cell in an amount sufficient to inhibit expression of the target gene, wherein the RNA is a double-stranded molecule with a first strand consisting essentially of a ribonucleotide sequence which corresponds to a nucleotide sequence of the target gene and a second strand consisting essentially of a ribonucleotide sequence which is complementary to the nucleotide sequence of the target gene, wherein the first and the second ribonucleotide strands are separate complementary strands that hybridize to each other to form said double-stranded molecule, and the double-stranded molecule inhibits expression of the target gene, wherein the target gene is a viral gene (claims 1, 4, 6, and 10).

In addition, Fire teaches a vector comprising a construct comprising a promoter operably linked to a nucleotide sequence comprising dsRNA comprising a sense strand and an antisense strand of the target gene, including a target gene from a virus (columns 4 and 9). The structural gene can comprise one or more strands of the nucleotide sequence (column 4). The nucleotide sequence may be at least 25 or 50 bases (column 8 and claim 10). The dsRNA may be formed by a single self-complementary RNA strand or two complementary RNA strands (column 7). See MPEP 2121 recites: "When the reference relied on expressly anticipates or makes

obvious all of the elements of the claimed invention, the reference is presumed to be operable." With respect to a single self-complementary RNA strand, the self-complementary RNA strand would contain a loop. The loop would have an undefined number of nucleotides. The vector can be introduced into a cell find in humans, including stem cells (column 8-10). A viral vector can be used as the vector (column 9). Fire et al. teaches using a phagemid to produce dsRNA (Column 18). The target gene can be endogenous in a human cell (claim 3 and columns 4 and 10-11).

Applicant's arguments with respect to polyadenylation tail, lipid mediated carrier and targeting a pathogen, including HIV is found partially persuasive and the rejection is withdrawn with respect to claims 115. However, the argument directed to DNA construct comprising a polyadenylation tail or targeting HIV is not found persuasive because these limitations are not recited in any of the instant claims.

Applicant's arguments filed 5/15/09 have been fully considered but they are not persuasive.

In response to applicant's argument that the Fire et al. provisional is generic in at least three ways with respect to the applicant's claimed invention, the argument is not found persuasive because Fire teaches dsRNA comprising a first sequence that is identical to a target sequence and a second sequence that is the complementary of the first sequence and making a vector comprising the dsRNA. Fire further teaches that the dsRNA can be two separate strands or a single self complementary strand (column 7). The single self complementary strand would contain an interrupted palindrome sequence (the loop of the single self complementary strand). Fire further provides an

example of producing dsRNA using a phagemid. Thus, the skilled artisan could use the phagemid to produce the dsRNA taught in column 7.

In response to applicant's argument that Fire et al. provisional does not disclose genetic constructs with an "interrupted palindrome" (see Exhibit 2), the argument is not found persuasive because as stated above Fire teaches that the dsRNA can be a single self complementary strand which would contain a sequence comprising a loop that would read on the interrupted palindrome sequence. The claimed product does not disclose that the interrupted palindrome sequence contains complementary or non-complementary nucleotides.

With respect to applicant's definition of "interrupted palindrome sequence' on page 23 of the lengthy response, the instant specification does not provide the definition as set forth in applicant's argument (see page 29 of the specification) and the skilled artisan would turn to the definition taught in the prior art for a teaching of the term. See Abdurashitov et al. Nucleic Acid Res. 1997, of record. Abdurashitov et al. teach a sequence comprising in a 5' to 3' direction GCANNNNNNTGC, and N as any nucleotide in the interrupted region.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 48, 110, 115, 116, 117, 119, 122, and 123 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fire et al. (US 6,506,559, cited on a PTO-1449) taken with Dietz (US 5,814,500, of record). Fire claims: A method to inhibit expression of a target gene in a cell in vitro comprising introduction of a ribonucleic acid (RNA) into the cell in an amount sufficient to inhibit expression of the target gene, wherein the RNA is a double-stranded molecule with a first strand consisting essentially of a ribonucleotide sequence which corresponds to a nucleotide sequence of the target gene and a second strand consisting essentially of a ribonucleotide sequence which is

complementary to the nucleotide sequence of the target gene, wherein the first and the second ribonucleotide strands are separate complementary strands that hybridize to each other to form said double-stranded molecule, and the double-stranded molecule inhibits expression of the target gene, wherein the target gene is a viral gene (claims 1, 4, 6, and 10).

In addition, Fire teaches a vector comprising a construct comprising a promoter operably linked to a nucleotide sequence comprising dsRNA comprising a sense strand and an antisense strand of the target gene, including a target gene from a virus (columns 4 and 9). The structural gene can comprise one or more strands of the nucleotide sequence (column 4). The nucleotide sequence may be at least 25 or 50 bases (column 8 and claim 10). The dsRNA may be formed by a single self-complementary RNA strand or two complementary RNA strands (column 7). See MPEP 2121 recites: "When the reference relied on expressly anticipates or makes obvious all of the elements of the claimed invention, the reference is presumed to be operable." With respect to a single self-complementary RNA strand, the self-complementary RNA strand would contain a loop. The loop would have an undefined number of nucleotides. The vector can be introduced into a cell find in humans, including stem cells (column 8-10). A viral vector can be used as the vector (column 9). Fire et al. teaches using a phagemid to produce dsRNA (Column 18). The target gene can be endogenous in a human cell (claim 3 and columns 4 and 10-11). However, Fire does not specifically teach a viral vector comprising the dsRNA construct.

However, at the time the invention was made, Dietz teaches using viral vectors (including AAV, adenovirus, and retrovirus, etc.) to deliver a nucleotide sequence to a cell (column 8). Dietz further teaches using a SV40 early, RSV or CMV promoter to express the RNA (column 6). Dietz also teaches targeting a pathogen in a vertebrate animal cell (column 4)

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Fire taken with Dietz, namely to produce a viral vector (including adenovirus and retrovirus) comprising the dsRNA construct. One of ordinary skill in the art would have been motivated to combine the teaching to delivery the construct to an animal cell.

In addition, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Fire taken with Dietz, namely to produce a dsRNA construct comprising a CMV, SV40 early, or RSV promoter. One of ordinary skill in the art would have been motivated to combine the teaching to sufficiently express the dsRNA in animal cells.

In view of Fire and Dietz, one of ordinary skill in the art would have had a reasonable expectation of success for producing the product

Therefore the invention as a whole would have been *prima facie* obvious to one ordinary skill in the art at the time the invention was made.

Applicant's arguments filed 5/15/09 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). This is the case here. Fire taken with Dietz teach produce a retroviral vector comprising the dsRNA construct. One of ordinary skill in the art would have been motivated to combine the teaching for delivering the construct to an animal cell.

In response to applicant's argument that Fire provisional only teaches using RNA over lengths from 299 to 1033 in C. elegans and merely contemplates what type of other cells the RNA can be introduced into; how to introduce the RNA into cells and all methods of producing RNA, the argument is not found persuasive because Fire teaches dsRNA comprising a first sequence that is identical to a target sequence and a second sequence that is the complementary of the first sequence and making a vector comprising the dsRNA. Fire further teaches that the dsRNA can be two separate strands or a single self complementary strand (column 7). The single self complementary strand would contain an interrupted palindrome sequence (the loop of the single self complementary strand). Fire further provides an example of producing dsRNA using a phagemid. Thus, one of ordinary skill in the art could use the phagemid to produce the dsRNA taught in column 7. See MPEP 2121 recites: "When the reference relied on expressly anticipates or makes obvious all of the elements of the claimed invention, the reference is presumed to be operable." See also Minnesota Mining & Mfg. Co. v. Blume, 684 F.2d 1166, 1172n.10, 215 USPQ 585, 590 n.10 (6th

Cir. 1982), cert. denied, 460 U.S. 1047, 461 U.S. 939 (1983). The instant specification produced plasmids embrace by the claimed invention, but does not provide any working examples of using the plasmids.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). This is the case here. Dietz is provided to show that one of ordinary skill in the art would have been motivated to delivery the dsRNA using retroviral vectors for delivery to the animal cells.

In response to applicant's arguments that one of ordinary skill in the art had no basis to select a single self-complementary RNA and not two separate RNA strands since Fire recognizes that the RNA structure was responsible for its inhibitor activity and claim 96 and dependent claims thereon recite methods that use DNA constructs that would produce a single stranded RNA strand, the argument is not found persuasive because Fire teaches dsRNA comprising a first sequence that is identical to a target sequence and a second sequence that is the complementary of the first sequence and making a vector comprising the dsRNA. Fire further teaches that the dsRNA can be two separate strands or a single self complementary strand (column 7). The single self complementary strand would contain an interrupted palindrome sequence (the loop of the single self complementary strand). Fire further provides an example of producing dsRNA using a phagemid. Thus, one of ordinary skill in the art could use the phagemid

to produce the dsRNA taught in column 7. See MPEP 2121 recites: "When the reference relied on expressly anticipates or makes obvious all of the elements of the claimed invention, the reference is presumed to be operable." See also Minnesota Mining & Mfg. Co. v. Blume, Id. The instant specification produced plasmids embrace by the claimed invention, but does not provide any working examples of using the plasmids. Furthermore, the instant specification contemplates how to use the plasmids but does not provide any working examples. Furthermore, the argument directed to claim 96 is moot since claim 96 is not pending and the claimed invention is directed to product claims not method claims.

In response to applicant's arguments that the selection of endogenous delivery presented a number of unknowns and the change to hairpin RNA presented additional unknowns, the argument is not found persuasive because Fire teaches dsRNA comprising a first sequence that is identical to a target sequence and a second sequence that is the complementary of the first sequence and making a vector comprising the dsRNA. Fire further teaches that the dsRNA can be two separate strands or a single self complementary strand (column 7). The single self complementary strand would contain an interrupted palindrome sequence (the loop of the single self complementary strand). Fire further provides an example of producing dsRNA using a phagemid. Thus, one of ordinary skill in the art could use the phagemid to produce the dsRNA taught in column 7. See MPEP 2121 recites: "When the reference relied on expressly anticipates or makes obvious all of the elements of the claimed invention, the reference is presumed to be operable." See also Minnesota

Mining & Mfg. Co. v. Blume, Id. The instant specification produced plasmids embrace by the claimed invention, but does not provide any working examples of using the plasmids.

In response to applicant's argument that the polyadenylation may interfere with RNA interference, the argument is not found persuasive because "It is well known to one of ordinary skill in the art that RNA transcripts typically include, for example polyadenylation signals and polyA itself…" See page 6 of appeal brief filed on 3/6/09 in application number 10/805,804. This would extend the length of RNA transcript beyond that constructs described by either Graham or Fire that putatively contain structural gene components of 20-30 nucleotides inherently produce RNA molecules of this length, this position is not supportable as inherency would be present only if such RNA were an inevitable result of the vector constructs (page 6 of appeal brief filed on 3/6/09 in application number 10/805,804.

Applicants' argument directed to unexpected property of the claimed invention is not found persuasive because applicant is arguing intended use of the claimed product, however, the claims are directed to a product and not a method of using the product. In addition, the unexpected result has to commensurate in scope with the teaching in the specification. See In re Kulling, 897 F.2d 1147, 1149, 14 USPQ2d 1056, 1058 (Fed. Cir. 1990). "It is well known to one of ordinary skill in the art that RNA transcripts typically include, for example polyadenylation signals and polyA itself…" See page 6 of appeal brief filed on 3/6/09 in application number 10/805,804. "This would extend the length of RNA transcript beyond that constructs described by

Graham that putatively contain structural gene components of 20-30 nucleotides inherently produce RNA molecules of this length, this position is not supportable as inherency would be present only if such RNA were an inevitable result of the vector constructs (page 6 of appeal brief filed on 3/6/09 in application number 10/805,804." Furthermore, the prior art of record teaches that dsRNA molecules longer than 30 base pairs trigger generalized cellular response through activation of dsRNA-dependent protein kinases (Manche et al. Molecular and Cellular Biology 12: 5238-5248, 1992, of record). Furthermore, see Declaration of David M. Stalker filed in opposition to Australian Patent Application No. 778474 (November 4, 2008) whom teaches the state of the art at the time the invention was filed.

In response to applicant's argument that one of ordinary skill in the art would not use not know how to deliver the construct to cells, in particular using a retroviral vector because the RNA express from the construct maybe unable to get out of the nucleus, the argument is not found persuasive because only claim 119 is limited to using a retrovirus vector and one of ordinary skill in the art understands that several viral vectors including adenoviral vector express the transgene in the cytoplasm and would have any concerns of getting out of the nucleus. Furthermore, the instant claims are directed to a retroviral vector comprising the DNA construct and not a mammalian cell comprising the DNA construct. Thus, one of ordinary skill in the art would have been motivated by the teaching of Fire and Dietz to make the retroviral vector. See also Minnesota Mining & Mfg. Co. v. Blume, Id.

Claims 133, 136, and 138 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fire et al (US 6,506,559, cited on a PTO-1449) taken with Ladner et al (US 5,198,346, of record). Fire teaches a vector comprising a construct comprising a promoter operably linked to a nucleotide sequence comprising a sense strand and an antisense strand of the target gene (columns 4 and 9). A viral vector can be used as the vector (column 9). However, Fire does not specifically teach separating a construct comprising the structural gene sequences with a stuffer sequence, wherein the sequence is 10-50 nucleotides in length.

However, at the time the invention was made, Lander teaches using a stuffer fragment having above about 10 nucleotides to introduce a stop codon or a unique restriction site (column and Table 704).

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Fire taken with Ladner, namely to produce a construct comprising a structural gene with a stuffer sequence having above about 10 nucleotides. One of ordinary skill in the art would have been motivated to combine the teaching to introduce a termination site after the sense strand or a unique restriction sequence for cloning purposes for adding additional sequences to the construct.

In view of Fire and, one of ordinary skill in the art would have had a reasonable expectation of success for producing the product

Therefore the invention as a whole would have been *prima facie* obvious to one ordinary skill in the art at the time the invention was made.

Applicant's arguments filed 5/15/09 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). This is the case here. Ladner is provided to show that one of ordinary skill in the art would have been motivated to combine the teaching to introduce a termination site after the sense strand or a unique restriction sequence for cloning purposes for adding additional sequences to the construct.

In response to applicant's argument that “stuffer” of Ladner et al. is in no way equivalent to the "interruption" of the interrupted palindrome of the subject application, the argument is not found persuasive because the instant specification does not provide the definition as set forth in applicant's argument (see page 29 of the specification) and the skilled artisan would turn to the definition taught in the prior art for a teaching of the term. See Abdurashitov et al. Nucleic Acid Res. 1997, of record. Abdurashitov et al. teach a sequence comprising in a 5’ to 3’ direction GCANNNNNNTGC, and N as any nucleotide in the interrupted region. As stated above, one of ordinary skill in the art would have been motivated to combine the teaching to introduce a termination site after the sense strand or a unique restriction sequence for cloning purposes for adding additional sequences to the construct.

In response to applicant's argument that there is no indication that the "stuffer" would form a loop of unpaired bases in the resultant RNA, the argument is not found persuasive because one of ordinary skill in the art would have been motivated for a different reason and that reason is to make a DNA construct with a stuffer fragment to introduce a termination site after the sense strand or a unique restriction sequence for cloning purposes for adding additional sequences to the construct.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., form a loop of unpaired bases in the resultant RNA) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 48, 110, 114-121, 124-136, 138, and 146-149 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6, 11-15, and 19-21 of Patent No. 6,573,099. Although the conflicting claims are not identical, they are not patentably distinct from each other because both set of claims are directed to a construct capable of producing dsRNA.

Applicant's arguments filed 5/15/09 have been fully considered but they are not persuasive because applicant defers discussion of the rejection until the double patenting rejections are the only rejections remaining.

Claims 48, 110, 114-121, 124-136, 138, and 146-149 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 131-135, 137-147-, 149-160, and 162-176 from copending Application Nos. 10/346,853. Although the conflicting claims are not identical, they are not patentably distinct from each other because the set of claims from '853 read on the instant claims directed to an animal cell comprising a construct comprising two identical sequences to a target gene in an animal.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant's arguments filed 5/15/09 have been fully considered but they are not persuasive because applicant defers discussion of the provisional rejections until the rejections are the only rejections remaining.

Conclusion

The limitation "50-100 nucleotides in length, or 100-500 nucleotides in length" in claim 138 is free of the prior art of record.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Whiteman whose telephone number 571-272-0764. The examiner can normally be reached on from 6:30 to 4:00 (Eastern Standard Time). The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor James Douglas Schultz can be reached on 571-272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Brian Whiteman/
Primary Examiner, Art Unit 1635